

## ABSTRACT OF THE DISCLOSURE

When a projection optical axis of a projector does not impinge on a plane of a screen vertically, a trapezoidal distortion occurs in an image on the screen. In order to correct the trapezoidal distortion, there is provided an angle detection apparatus for automatically accurately detecting a relative inclination angle between the projector and the screen. The angle detection apparatus of the invention includes a distance measuring part for obtaining distances to plural different measurement positions on a straight line extending on a planar body as a measurement object, a typical value calculation part for dividing the plural measurement positions into plural small groups spatially adjacent to each other, and obtaining a typical value of distances as distance measuring results by the distance measuring part in each of the small groups, and an inclination angle calculation part for calculating an inclination angle between the distance measuring part and the measurement object in a plane vertical to the measurement object including the straight line.